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Heart failure self-monitoring toolkit

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Heart failure self-monitoring toolkit

By

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Abstract

Heart Failure (HF) is one of the most common cardiac syndromes encountered in the primary care setting amongst older adults; it affects more than 6 million people in the United States (Goroll & Mulley, 2009; Papasifakis, n.d.). HF is one of the most common diagnosis of patient readmissions. HF readmissions increase the cost of healthcare and affect the quality of life for individuals. Different strategies such as disease management programs with a focus on patient education have been widely used to reduce the risk of patient readmissions. Evidence-based research has shown that heart failure disease management programs that focus on patient education and telephone follow-up decrease the probability of patient readmissions and increase the individual's quality of life. In Puerto Rico, there is a dearth of research in heart failure disease management programs and the effectiveness of advanced practice nurses in the management and treatment of patients with heart failure. The purpose of this toolbox is to provide a standardized program for veterans that have had a recent hospital admission (30 days or less) with a diagnosis of decompensated heart failure at the VA Caribbean Healthcare System in San Juan, Puerto Rico.

Keywords: heart failure, disease management programs, patient education, toolbox

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Background and Significance

Heart Failure (HF) is one of the most common cardiac syndromes encountered in the primary care setting amongst older adults, it affects more than 6 million people in the United States (Goroll & Mulley, 2009; Papasifakis, n.d.). Older adults are defined by Healthy People 2020 as individuals 65 and older. Countless older adults who suffer from HF are also diagnosed with diabetes, hypertension, dyslipidemia, arthritis, and many other conditions, making it difficult for them to recognize signs and symptoms of heart failure decompensation. These patients take many medications for their chronic diseases, putting them at risk of adverse pharmacological events and inappropriate medication usage. For instance, a 75 year old patient with a diagnosis of heart failure takes over the counter non-steroidal medications (NSAIDs) for his arthritic pain not knowing that this may exacerbate his HF condition. A 69 year old patient discharged from the hospital with a change from Metoprolol tartrate to Metoprolol succinate would be another example. During discharge instructions, the patient did not understand that he had to stop taking Metoprolol tartrate once he got home. When he gets home, he continues taking Metoprolol tartrate with Metoprolol succinate. Providers can assist HF patients in managing their care, preventing complications, increasing quality of life, reducing readmissions by providing education in self-management skills, and minimizing inappropriate medication usage (Ding, Yehle, Edwards, & Griggs, 2014).

Healthcare settings that care for patients who suffer from HF need to have a plan in place where a multidisciplinary team work together in fostering patient-centered care. The Institute of Medicine (IOM) after reviewing the United States (US) health care system expressed the “*chasm*” that exists in providing “*safe, effective, patient centered, timely, efficient and equitable*” care to all individuals (Institute of Medicine [IOM], 2000).

Problem Identification and evidence/justification/rationale

Heart failure (HF) is the leading cause of hospitalization in the US among population age 65 years and older. The incidence and prevalence continues to rise as the population ages and individuals survive cardiovascular events that eventually lead to HF. The impact of this cardiovascular syndrome is enormous and the associated economic and psychosocial implications are staggering. Hospital readmissions cost the Center for Medicare and Medicaid Services (CMS) \$17.4 billion annually with HF being the primary diagnosis for re-hospitalization. Annual costs to treat HF are estimated at 35.1 billion and it is estimated to increase within the next couple of years (Ding et al., 2014). Research has demonstrated disease management programs that provide individualized care and patient education decreases hospital readmissions (McAlister, Lawson, Teo, & Armstrong, 2001; Zamanzadeh, Valizadeh, Howard, & Jamshidi, 2013; Kinugasa et al., 2014). Providing individualized patient education on HF and medication treatment with telephone follow-up can improve the quality care the patient receives and will increase patient adherence to treatment.

Review of Literature

Five electronic databases were searched for this literature review, dating from 1998 to 2014 using the following Medical Subject Headings (MESH) terms: advance practice nursing, heart failure, managed care programs, patient education and Puerto Rico. The databases searched were: Google search, Chrome, CINAHL, EBSCOhost, and PubMed from the U.S. National Library of Medicine National Institute of Health. PubMed provided a great amount of studies under the key words: Heart Failure and treatment. There were 119,956 total. Key word terms were modified to Heart failure and disease management and program, leading to 2,912 studies. To reduce the number of articles, the term Hispanic was added to the research database

with a result of 12 studies. Many of the research articles focused on medical therapy, not on patient education or disease management. After reviewing the 10 articles, four studies were selected. A second search was performed, focusing on published articles from *The Journal for Nurse Practitioners (JNP)* from 2013 to 2014. Six relevant articles were found. Four were selected. The John Hopkins framework was used to appraise the evidence. To view the matrix please refer to Appendix A.

Thompson, Roebuck, and Stewart (2005) in their randomized study recruited a total of 106 patients from two hospitals in England to evaluate their post-HF hospital discharge care. The subjects were randomly divided into two groups of care: clinic plus home-based intervention (C+HBI, n=58) and usual post discharge care (UC, n= 48). The purpose of the study was to establish an association between nurse-led clinics and a decrease in patients with heart failure readmission. During the six month follow-up, statistics showed that patients that received C+HBI care (26%) vs UC (44%) were less likely to die or be readmitted. In addition their self-evaluation of quality of life showed consistent improvement. This study although not specific to the Hispanic population, provided evidence that nurse-led clinics are cost-effective and decrease HF readmissions.

Banchs-Pieretti, Franqui-Riveras, Segarra-Alonso, Altieri-Nieto, and Calderón-Rodríguez (2008) in this retrospective study, they reviewed medical charts to analyze the outcomes of a disease management program in Puerto Rico for patients with HF. In this retrospective study, they reviewed 244 medical charts from the years 1999 to 2005 of patients who had the diagnosis of HF. 178 (72.9 %) were men; 66 (27.1%) were women. They were part of a disease management program (DMP) and received care in the Cardiovascular Center of Puerto Rico and the Caribbean (CCPRC). CCPRC is a tertiary facility that provides care to a large Hispanic

population that suffers from cardiovascular diseases. The disease management program (DMP) consisted of two cardiologists with special training in HF management and three nurses that assisted the cardiologists in providing care. The nurses' functions were to coordinate care, modify HF medication dosages, provide patient education, and to make follow-up phone calls. The researchers discovered that after 12 months of treatment in the DMP, patients' New York Heart Association (NYHA) functional class improved (82 % reached I or II). The left ventricular ejection fraction (LVEF) improved from 21% to 40%. Hospitalizations decreased from 62.7% to 7.2%. The researchers concluded that the disease management program for HF patients was effective. They also concluded that a disease management program for Hispanic patients who suffer from HF led by specialized cardiologists improved quality of life (QOL) and decreased patient readmission.

Kim and Han (2013) provided a critical review and an appraisal of the current research on strategies used to prevent HF readmissions. The authors divided the strategies to decrease readmissions in individuals who suffer from HF into two broad categories: outpatient-focused approaches and inpatient care-focused strategies. Disease management, tele-monitoring, and other outpatient approaches were within the category of outpatient- focused strategies. They also provided information that addressed strategies used to care for HF patients to reduce readmission rates. Finally, they emphasized the importance of utilizing strategies that are conducive to the population and available resources.

Sales, et al. (2013) conducted a randomized prospective study (n= 137 patients) linking readmission rates with care that HF patient receive after discharge. The subjects were divided into two groups; one that received close follow-up care and close monitoring from trained medical students who are volunteers; this group was denominated as Arm A (n= 70), and the

second group Arm B (n=67) received standard discharge care. The study demonstrated that patients that received close follow-up care and monitoring from trained medical students volunteers had a lesser readmission rate than those that only received standard discharge care. Within the 30 day follow-up after discharge, five patients (7%) of group A vs 13 patients (19%) of group B required readmission for acute exacerbation of heart failure. There was no difference in mortality risk between group A and group B. This study provided evidence of the cost-effectiveness of patient education, close monitoring, and follow-up care, and how these strategies reduce HF patient readmission.

Wiley, R.M. (2011) provides a thorough systematic review of 19 research articles composed of randomized controlled trials (12), systematic reviews (3), meta-analysis (2), met-regression analysis (1), and a literature review (1) that focused on the outcomes of different heart failure disease management programs. The author identified the benefits of a well-organized HF management program that focused on patient education and care that is individualized according to the patient's needs and available resources. The author's systematic review validated the benefits of disease management programs, individualized interventions such as telephone follow-up, and tele-monitoring.

Voight and Mosier (2013) conducted a review of evidence-based research that had examined the costs of inpatient and outpatient care for patients with a diagnosis of heart failure. Their objective was to provide evidence that there is no difference in costs of care for patients who have a diagnosis of heart failure. Ten studies were chosen for review to evaluate the costs of care at three, six and 12 months. The authors concluded that there was no difference between hospital, home, and physician office expenditures within 12 months.

Research has also demonstrated that instructing patients about their condition, medications, self-care, and diet combined with close follow-up improved the individual's way of life and decreased patient readmission. Patient education should be individualized and prepared according to the individual's educational level and to their needs. The main objective is to provide the patient and their caregivers with the necessary knowledge and skills to be actively involved in their care (Edwardson, 2007; Papasifakis, n.d.).

Zamanzadeh, Valizadeh, Fuschia Howard, and Jamshidi, (2013) in their prospective randomized trial evaluated the outcomes of supportive-educational intervention on self-care behaviors in patients who suffer from HF (n=80). Participants were randomly placed in the control group (n=40) and the intervention group (n=40). The control group received usual patient education. The intervention group received a two part patient education about self-care. The education was prepared according to patient's level of education. After the session, participants were provided with written material to review at home. The intervention was based according to the individual's needs and knowledge of their condition. After the patients received instructions, participants would have a telephone follow-up after discharge. Data from the control and the intervention groups were collected at baseline then at one, two, and three months. Self-care behavior results at baseline for the control and intervention groups did not differ. Self-care behavior results after three months were higher in the intervention group than in the control group, demonstrating that supportive patient education increases and improves self-care behavior.

Barnason, Zimmerman, and Young (2011) chose 19 self-care intervention studies to assess the available data on the effectiveness of different strategies used to increase patient compliance in heart failure self-care and management. Their integrative review shows that there

is a need to establish educational guidelines and consistent knowledge evaluation measures for HF patients. Their study confirms that patient education increases patient adherence and compliance.

Roncalli, Perez, Pathak, Spinazze, Mazin, Lairez, Curnier, Faourcade, Elbaz, Carrié, Puel, Fauvel, and Galinier (2009) recruited 115 HF patients in a prospective cohort study and surveyed their knowledge before the educational session, after the educational session, and one year after the session. Results were that the level of patient knowledge increased after the educational session. With the increase of patient knowledge, there was also an increase in patient compliance and a decrease in patient readmissions.

The 2013 ACCF/AHA guidelines American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines published by the American College of Cardiology foundation and the American Heart Association provided evidence-based guideline directed medical therapy (GDMT) for the diagnosis and therapy of Heart failure. The report provided pharmacological and non-pharmacological treatment guidelines on how to effectively care for HF patients. The reader can find various statements throughout the report that indicate the benefits of disease management programs. These guidelines describe the importance of patient education and centralizing care according to the individual's needs and preferences.

Disease management programs (American College of Cardiology and the American Heart Association [ACCF/AHA], 2013; Banchs-Pieretti et al., 2008; Bowers, 2013; Kinugasa et al., 2014), patient education (Kim & Han, 2013; Sales et al., 2013), tele-monitoring (Voight & Mosier, 2013; Willey, 2011) and telephone follow-up (Bowers, 2013; Kim & Han, 2013; Zamanzadeh, Valizadeh, Howard, & Jamshidi, 2013) are strategies that have been associated

with decreased heart failure decompensation hospital readmissions. These strategies have been reported to be safe, cost-effective, and efficient.

Research has demonstrated that getting heart failure patients and their families involved in their care and management, increases therapy compliance, (Barnason et al., 2011; Roncalli et al., 2009) improves quality of life (Zamanzadeh et al., 2013) , and decreases heart failure readmissions (Kim & Han, 2013; Thompson, Roebuck, & Stewart, 2004; Voight & Mosier, 2013;). There is a need for more evidence-based research on the effectiveness of disease management programs, tele-monitoring and telephone follow-up amongst Hispanics diagnosed with heart failure. The retrospective study by Banchs-Pieretti, Franqui-Riveras, Segarra-Alonso, Altieri-Nieto, and Calderón-Rodriguez (2008) is the only research published in Puerto Rico on the topic of heart failure disease management programs. Their study supports the effectiveness of HF disease management programs in Puerto Rico. In the literature review no other published research was found on heart failure disease management programs amongst Hispanics or in Puerto Rico.

Heart failure not only affects the physical part of the individual, it also affects the psychological, emotional, and spiritual aspect as well. This literature review provides evidence that disease management programs are effective in providing individualized patient care and decreasing hospital readmissions in the US (Kim & Han, 2013; Voight & Mosier, 2013; Willey, 2011). Disease management and community health programs, where there is a multidisciplinary approach that consists of physicians, advance practice nurses, clinical nurse specialists, nurses, nutritionists, pharmacists, and other members of the interdisciplinary team have demonstrated effective results in providing wholistic care, decreasing readmission (ACCF/AHA, 2013; Banchs-Pieretti et al., 2008; Barnason et al., 2011; Kim & Han, 2013; Kinugasa et al., 2014) and

improving quality of life (Roncalli et al., 2009; Willey, 2011). The application of strategies developed in the US with non-Hispanic HF patients to decrease the rehospitalizations is expected to provide reasonable guidance to improve the care of HF patients in Puerto Rico.

There is a dearth of research on Hispanics who have a diagnosis of heart failure and their care in the US. Language barriers and difficulty to access health care directly affect the health outcomes of Hispanics (Davidson et al., 2007). The use of research translation for the application of individualized patient education plans, telemonitoring, telephone follow-up, and disease management programs can expand the evidence on the care of HF patients in Puerto Rico and the United States.

There is a need to improve the care of HF patients in Puerto Rico. With the exception of language, the barriers that individuals living in Puerto Rico encounter are very similar to the barriers that Hispanics face in the US. The application of strategies developed in the US with non-Hispanic HF patients to decrease the rehospitalizations is expected to provide reasonable guidance to improve the care of HF patients in Puerto Rico. The use of research translation for the application of individualized patient education plans, telemonitoring, telephone follow-up, and disease management programs can expand the evidence on the care of HF patients in Puerto Rico and the United States.

Theoretical Framework

The theoretical frameworks that will be used are the Self-care of chronic illness nursing theory by Riegel, Jaarsma, and Strömberg; and the Knowledge to Action model (KTA) by Graham and Colleagues. The Self-care of chronic illness theory describes self-care as a practice where health promotion and disease management are applied with the objective to involve the

patient in his/her care. Self-care is dynamic and constant, where the individual learns how to cope with his/her illness and make decisions about their care.

Self-care maintenance, self-care monitoring, and self-care management are components of the Self-care of chronic illness theory Riegel et al., 2012. Self-care maintenance entails the actions and behavior modification that the individual undertakes to improve his or her health. The goal of the health care provider is to encourage the patient to become an active participant in their care and adhere to treatment. Self-care monitoring refers to actions the patient carries out to identify changes in their condition. Glucose check, blood pressure and weight monitoring are some examples of self-care monitoring. It is important for the individual to understand and see the value of performing these activities. When the patient is truly engaged in this process he or she can recognize the subtle changes in their condition and many times prevent complications. Self-care management involves treatment and outcome evaluation. It is important for patients to have situational awareness and know what treatment outcomes are expected.

The Knowledge to Action (KTA) model occurs in seven stages: (1) problem identification; (2) information adjustment; (3) barrier assessment; (4) share new information; (5) monitor new information application and use; (6) examine the outcomes; and (7) verify that new information is implemented (White, 2012). The following table provides an explanation of how the KTA model will be applied.

The knowledge to action model	Toolbox Application
Problem identification	Reduce the risk of readmissions for acute decompensated heart failure in patients who receive care in the VA Healthcare system.

Information adjustment	Adjust the information to our heart failure patient's needs.
Barrier assessment	Assess for possible barriers such as communication, education level, family support.
Share new information	Share the information with the interdisciplinary team and the patient and their supports.
Monitor new information	Monitor information through data collection; such as: rate of 30-day readmission with a diagnosis of acute decompensated heart failure, percentage of patients who complete the 30-day journaling log, pre-posts tests.
Examine the outcomes	Analyze the outcomes.
Verify that the new evidence is implemented and that it has been adopted	Verify that changes have been implemented and adopted.

□ **Table 1:** Applying the KTA model to the heart failure patient self-monitoring toolkit

Implementation Tool kit:

The review of the evidence, presented here, yielded a set of tools supported for an education and management program for Puerto Rican HF patients. These tools include Pre & post-tests (see Appendix B & C); Patient 30-day self- monitoring tool (see Appendix D); The Newest Vital Sign Health literacy screening by Pfizer (Appendix F); and for monitoring understanding and adherence. The clinical setting for the use of this set of tools is the outpatient setting in Puerto Rico. The Intended users are: Advanced Practice Nurses; nurses; physician assistants; and physicians.

Toolbox objective

The objective of this toolbox is to provide a standardized program for HF patients that have had a recent hospital admission (30 days or less) with a diagnosis of decompensated heart failure. This standardized program includes standardized HF zone monitoring to increase HF knowledge and self-management awareness; an evidence-based health literacy screening instrument to tailor education to patient's level of understanding, and self-care journaling tool to increase patient treatment adherence, through increased self-awareness, in individuals with a diagnosis of heart failure.

Target population

The target population are all individuals 18 years and older with a recent hospital admission (30 days or less) with diagnosis of decompensated heart failure. This toolkit is designed for individuals that receive care through a healthcare system in Puerto Rico.

Exclusion criteria

Individuals excluded are; those who are in a NYHA class IV stage C or D; those who cannot care for themselves, those who are unable to read and write in Spanish, those who have signs and symptoms of acute heart failure decompensation, those with vision impairment, and those who suffer from dementia or any mental disability that would interfere with their ability to make decisions.

Interventions and Practice this toolkit includes.

Health literacy screening tool

HF patient education on disease, diet, fluid restriction, medication treatment

30 day self-assessment journaling sheet

Telephone follow-up

One month follow-up

The process for implementing the toolkit are described in the Methodology section of this paper (see pages 15-19). There are individual outcome measures for each patient evaluation, and program outcome measures to evaluate the use of the toolkit (program).

Outcome Measures (Individual)

Blood pressure

Weight

Pro-BNP levels

Outcome measures (Program)

Readmission rate due to D-CHF

Percentage of patient 30-day journaling sheet completion

Patient self-assessment evaluation about how they feel about the transition from provider centered care to patient-centered care.

Methodology:

Patients that have had a recent admission due to decompensated congestive heart failure should have a follow-up appointment within one week post discharge. This toolbox is to be started in that follow-up appointment.

The Plan, Do, Study, Act (PDSA) model.

Plan:

1. Collection of baseline data. Review the patient's inpatient's chart, verify if there is documentation on patient education about heart failure, diet, fluid restriction, medications and physical activity.

Do:

1. While patient is in the waiting area provide the pre-test. The purpose of this test is to assess patient's knowledge about heart failure, diet and treatment. This test was developed by Tanya Green, DNP-s, MSN, RN, FNP-BC based on heart failure patient education guidelines provided by the American Heart Association (AHA) and the American Association of Heart failure Nurses (AAHFN). This test has been reviewed by Mrs. Iris Ramos, MSN, RN, FNP-BC; Dr. Abigail Matos, DNP, MSN, ANP, RN-CCA, Dr. Joan Roche PhD, RN, GCNS-BC, and Dr. Raeann LeBlanc DNP, GNP-BC, ANP-BC.
2. During the interview process assess patient's health literacy. The instrument to be used will be The Newest Vital sign health literacy assessment tool developed by Pfizer (Powers, 2010). This instrument uses a nutrition label to test the patient's skills for number and words. This test should take about 3 minutes. This instrument is available in English and Spanish.
3. Provide individualized patient education on heart failure, low sodium diet, fluid restriction and medications. Review with the patient the 30 day journaling sheet; establish goals with the patient. The 30 day journaling sheet is a self-assessment sheet that will assist the patient in monitoring his/her blood pressure and weight. The instrument also helps the patient adhere to his/her diet by answering the following questions each day: did I take my HF medications? Did I follow a low sodium diet and fluid restriction? The patient will identify each day what zone they are in. Use the teach-back method to ensure that the patient has understood the information and instruction provided. The 30 day journaling sheet was adapted by Tanya Green, DNP-s, MSN, RN, FNP-BC it is a combination of heart failure zones used in the HF clinic

at VA Caribbean Healthcare system, the Institute for Health Improvement Heart Failure Zone flyer. The journaling sheet has been reviewed by Mrs. Iris Ramos, MSN, RN, FNP-BC; Dr. Abigail Matos, DNP, MSN, ANP, RN-CCA, Dr. Joan Roche PhD, RN, GCNS-BC, and Dr. Raeann LeBlanc DNP, GNP-BC, ANP-BC.

4. Allow time for the individuals to ask questions. Establish date and time for the nurse practitioner to provide a one week telephone follow-up; also provide follow-up appointment within one month.
5. Component of the journaling sheet:
 - Date: Every day the patient is to write the day and the time.
 - Blood pressure: BP target will be established with the patient. The patient is to take their BP every day this may be taken at different times of the day
 - Weight: patient is to weigh themselves daily. Instruct patient to call the clinic if he/she gains 3 pounds in one day or 5 pounds in one week. .
 - Did I take my heart failure medications today? Patients that suffer from HF need to know their medications and the importance of treatment adherence. To decrease the risk of adverse effects and hypotension it is important to review with the patient their HF medications, possible adverse effect such as orthostatic hypotension, and establish an administration schedule with the patient. This is for all medications individually?
 - Low sodium diet: review with the patient what does a low sodium diet mean, options to increase diet adherence.

- Fluid restriction: Establish individualized goals of how much fluid should they consume, and assist the patient in determining how they can measure their fluid intake.
 - Heart failure zone: each day the patient will determine in what zone they are in.
 - Comments: patients can write any concerns, questions, findings that they may have had that day.
6. Provide a 10-15 minute telephone follow-up in one week. Questions to ask: Do you have chest pain? Do you feel shortness of breath? How often? With exertion? At rest? Do you feel tired, fatigued? Are you sleeping well? How many pillows are you using to sleep? Are your ankles swollen? Do your normal shoes feel tight or difficult to put on? How much did you weigh today? Have you gained or lost weight in the last week? Are you taking all of your heart failure medications? Which ones did you skip? Why did you miss any of your medications? Were you able to follow the low sodium diet that we discussed at your last appointment? In what zone are you in today? In the last week did you have any days in yellow or red zones? What did you do when you were in those zones? Has it been easy for you to keep up with your 30 day journal? Do you have any questions or concerns? Always review with the patient heart failure decompensation signs/symptoms and when to call the clinic or go to the ER. Remind patient of his/her follow-up appointment and to bring their 30-day journaling sheet to their next appointment.

Study:

1. Results of Pfizer's Newest Vital sign health literacy assessment tool.

2. The overall evaluation of the pretests and post-tests. It is expected that patient's post-tests are better than the pre-tests. The percent of improvement will be calculated.
3. Percentage of the journaling sheet the patient completed. Answer the following questions: How many patients completed the journaling sheet? How many patients did not complete the journaling sheet? Compute the percentage completed and evaluate problem areas for improvement in this tool
4. Percentage of readmissions within the 30 day post discharge timeframe.
5. The day of the one month follow-up appointment: provide HF post-test. Review with the patient his/her journaling sheet. Ask the following questions: On a scale of 1-5 how easy was it to fill out this journaling sheet?
 - a. 1-Very easy
 - b. 2- Easy
 - c. 3- Somewhat easy
 - d. 4- Somewhat difficult
 - e. 5- Very difficult

Allow time for patient to ask questions and express concerns. Review with the patient heart failure condition, signs and symptoms of decompensation, diet, fluid restriction and medication treatment using the questions provided for the phone call.

Act:

1. Analyze the data obtained and the outcomes. Answer the following questions: Did the individual's knowledge about HF increase? Does the HF patient feel comfortable and prepared to care for themselves? Was the 30-day journaling tool effective?

2. Meet with the interdisciplinary team: physicians, nurse practitioners, nurses, nutritionists and discuss the results and the outcomes.
3. Update the clinic's heart failure protocol according to evidence based guidelines, update patient education resources, and disseminate the information. Implement changes.
Establish new goals; provide timeframe; reassess.

Evaluation of Patient 30-day Journaling sheet

The provider should highly encourage the patient to fill out their log. Time for discussion and for review with patient should be allowed. The time for review or discussion may be during a telephone follow-up or during a follow-up visit. For data analysis it is important for a log to be completed at least for 20 days. Logs should also be evaluated according to completion rate and how easy it was for the individual to complete his/her log. Provide an opportunity for the patients to verbalize or write their comments about the 30-day journaling sheet. Encourage them to provide recommendations.

Potential benefit

The use of this toolbox provides many benefits. The potential benefits are; increase in patient's knowledge of heart failure, increase in patient's participation in his/her self-care management, promote patient adherence in his/her medical care and reduce the risk of patient readmission due to acute decompensated heart failure.

Potential harms:

As individuals grow in knowledge about HF and start participating in their care there are some potential harms. The potential harms are: not providing patient self-management support in a timely manner; increase in patient's anxiety as he/she increases in knowledge in self-care; patient may feel confused and feel a decrease in self-confidence.

Conclusion:

Heart failure (HF) is the leading cause of hospitalization in the US. Evidence-based research has demonstrated that disease management programs that provide appropriate patient education; increases patient participation in his/her care, assists individuals in making informed decisions and increases patient adherence to treatment. Patient education needs to be individualized and based according to the individual's needs and skills. Before establishing patient education it is important to keep in mind, the patient's health literacy, their willingness in participating in their self-care and resources available .

This toolbox provides a standardized program for individuals 18 years and older that have had a recent hospital admission (30 days or less) with a diagnosis of decompensated heart failure. This program includes an evidence-based health literacy screening instrument, a pre/post tests, and a HF self-care journaling tool.

This toolbox was presented before a board of cardiologists, fellows from the institution's cardiology program, nurse practitioners and nurse practitioner students. The instruments used in this toolbox were evaluated and discussed with the participants. Participants accepted the pre/posts tests with ease, but had difficulty understanding the health literacy assessment tool. After completing the health literacy assessment tool it was noted that this test may take longer than six (6) minutes to complete. Due to the time it may take to complete the test recommendations were made to consider a different health literacy tool. The author has reviewed different health literacy tools and has not found another assessment tool that measures literacy and numeracy in English and Spanish. For this reason the author recommends the Newest Vital sign health literacy tool. After the presentation, an evaluation form was provided to the participants; overall the toolbox received a 98% positive review.

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Appendix A: Matrix

Citation	Sample and location research/study was performed	Design	Outcome/Results of the intervention and/or objectives of the study	Strengths(s) and weakness(es)	<u>Evidence Level</u> <u>Strength/ Quality</u> <u>Evidence</u> (based on John Hopkins Research evidence appraisal ¹ and non-research evidence appraisal ²)
American College of Cardiology and the American Heart Association, 2013	Report, guidelines based on evidenced-based research	Randomized control trials, meta-analysis, observational studies, expert opinions	Pharmacological and non- pharmacological treatment guidelines on how to care for HF patients in an effective way.	Strength: compilation of 924 research studies. Weaknesses: 7 research studies focused on Ethnic differences; only 2 studies address the	<u>I-IV/A²</u>

				Hispanic population.	
Banchs-Pieretti, et al., 2008 ¹	244 medical records from 1999-2005	Retrospective study medical chart review	Using a disease management program in Hispanic patients who suffer from HF improves QOL and decreases and hospitalization.	<p>Strength:</p> <p>Population for medical chart review where Hispanics.</p> <p>Provides opportunity to view health disparities.</p> <p>Weakness:</p> <p>Patients were not interviewed to evaluate quality of life.</p> <p>Chart review done until 2005 article written in 2008 possible</p>	III/B ¹

				changes could have occurred amongst studied subjects.	
Davidson, J. A., Moreno, P. R., Badimon, J. J., Lopez- Candales, A., Maisonet Giachello, A. L., Ovalle, F., ... Kannel, W. B., 2007	Extensive literature review of studies performed between 1995-2005	Retrospective	Limited research and treatment on Hispanic populations. Hispanic at risk of developing cardiovascular disease due to inability to access care, language barriers and perception of healthcare.	Strength: Review done on research performed in a 10 year window focused on the Hispanic population. Weakness: authors do not specify how many research articles were reviewed nor the quality of the research.	V/ B ¹

Kim, S. M., & Han, H., 2013	Selection and analysis of: 9 RCT, 6 systematic reviews, 4 observational studies for a total of 19 articles.	Electronic database search done in PubMed, CINAHL, JAMA, EMBASE, and Cochrane Library	Literature analysis of inpatient and outpatient of strategies that can be used to minimize HF patient readmissions.	Strength: review of literature provides information of studies and gaps in research. Weakness: Health disparities are not identified.	III/B ¹
Pinkerman, C., Sander, P., Breeding, J. E., Brink, D., Curtis, R., Hayes, R., ... Turner, A. ,2013	Adult patients 18 years and older with heart failure	Systematic review of various research and observational studies	Quality improvement guideline recommendations .	Strength: Provides a variety of resources and tools to improve management of heart failure patients in the primary care setting.	I-IV/A ²

				Weakness: Does not address health disparities, nor Hispanic population.	
Daviglus, M. L., Talavera, G. A., Aviles-Santa, M. L., Allison, M., Cai, J., Criqui, M. H., Stamler, J. , 2012	Largest Hispanic population based study performed; total prospective=15079 Cuban(n=2201), Dominican(n=1400), Mexican (n=6232) Puerto Rican (5n= 2590) Central American (n=1634) South American (n=1022) ages 18 to 74	Multicenter prospective study	Describe the prevalence of major cardiovascular risks amongst Hispanics living in the US. Establish a relationship between socio-economic status, acculturation and cardiovascular risks.	Strength: One of a kind study with a large population of Hispanics Weakness: Findings are mostly dependent on self-reporting. There is a great probability of bias and confounding factors are not identified.	III/B ¹

Sales, V. L., Ashraf, M. S., Lella, L. K., Huang, J., Bhumireddy , G., Lefkowitz, L., Heitner, J. F., 2013	137 subjects/June2010- December 2010/ NY	Randomized prospective single-center study	Objective of the study was to reduce patient readmission by assigning trained volunteers to provide education and follow-up care to patients.	Strength: Provides an innovative way to care for HF patients, to decrease readmission rate and provide cost- effective care Weakness: There are possible biases that the study does not mention, this strategy may not apply to all locations.	II /B ¹
Thompson, D. R., Roebuck, A., &	106 patients from the York District Hospital and Scunthorpe General	Randomized study	Establish an association between nurse- led clinic and	Strength: randomized assignment of participant's	I/B ¹

Stewart, S. 2004	Hospital in the North of England		decrease in HF readmissions.	providers were notified. Parametric and non-parametric statistics used to analyze the data. Weakness: Identification of confounding nor biases are identified in the study.	
Voight, J., & Mosier, M, 2013	Evaluation of RCTs that evaluated cost of care of remote monitoring of heart failure patients versus standard care in the United States (US).	RCTs; Meta- analysis	Demonstrate that remote monitoring care of heart failure patients lowers the cost of care of HF patients in the US.	Strengths: Meta-analysis, RCTs evaluated and analyzed. Weaknesses: No data on possible	III/C ¹

				confounding factors or biases. No mention of healthcare disparities nor minority populations.	
Willey, R. M., 2011	Systematic review of evidence-based research on management of HF patients after discharge.	Analysis and review of 21 research studies on strategies used to care for HF patients after hospital discharge.	Review evidence-based research on management of HF patients after hospital discharge.	Strengths: thorough review of research articles on the topic of HF disease management programs. Weakness: limited research on HF management	I-IV/B ²

				in ethnic minorities.	
Zamanzadeh, V.; Valideh, L.; Howard, A.F.; Jamshidi, F. 2013	Shahid Madani Hospital in Eastern Iran Sample n=80; Control group: 40 Intervention group: 40	Prospective randomized trial	Patients whom received supportive education demonstrated increased self-care behavior modifications than those that just received standard care.	Strengths: adequate sample size; participants were evaluated at appropriate times (1mo., 2mo. 3 mo.) Weaknesses: possible bias since evaluation was done mainly by self-reporting.	I/B ¹
Barnason, S., Zimmerman, L., &	Search from databases MEDLINE, PsychINFO, Cochrane and	Integrative review	Examine the strategies used to increase HF patient	Strengths: this review offers objective data a variety of	IV/A ²

Young, L., 2011	cumulative index of nursing and allied health literature (CINAHL) where 19 articles were selected.		compliance and participation in their self-care. Results found: Patient education and reinforcement increases patient's knowledge and participation in their care.	research and supports the need to establish a methods to analyze the effectiveness of patient education. Weakness: There may be presence of bias which was not identified in the review.	
Roncalli, J., Perez, L., Pathak, A., Spinazze, L., Mazon, S., Lairez, O., ...	Stable heart failure patient from a University Hospital in France. N=115 were selected	Prospective cohort study	Establish the relationship between patient education and increase in patient knowledge about	Strength: study substantiates that patient teaching increases individual's knowledge in	III/B ¹

Galinier, M., 2009			their condition and care.	young and elderly. Weakness: Small study. Evidence is needed on the long-term (greater than one year) benefits of patient education.	
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Based on: John Hopkins Research evidence appraisal¹

Appendix B: Pre/post-test (English)

Name_____

Date_____

Pre-test/ Post- test:**Instructions: Please, read carefully and select the correct answer.**

1. The function of the heart is to:
 - a. Receive and pump blood throughout the body.
 - b. Digest food.
 - c. Protect the body against infections.
 - d. Filter the blood.
2. Heart failure is:
 - a. When the heart cannot digest food.
 - b. When the heart stops beating.
 - c. When the heart beats very fast.
 - d. When the heart cannot pump enough blood throughout the body.
3. Ejection fraction is:
 - a. A measure used to determine blood sugar in the blood.
 - b. A measure used to know if I have a fever.
 - c. A measure used to know how much blood the heart pumps out.
 - d. A measure used to see how much I weigh.
4. The warning signs of heart failure flare-up are:
 - a. Swelling of feet and ankles, shortness of breath, cough that doesn't go away, waking up at night short of breath.
 - b. Nausea and vomiting.

- c. Fever and chills.
 - d. Increased appetite.
5. Because of heart failure in my diet I need to restrict :
- a. Amount of fruits I eat.
 - b. Amount of sodium and liquids I ingest.
 - c. Amount of meat I eat.
 - d. Amount of vegetables I eat.

II. Please answer the following questions:

1. Please mention what are the things that you need to monitor at home every day?

2. Please list the heart failure medications you are taking

III. Please answer the following questions:

It is easy to perform the following daily activities:	Agree	Disagree*	*Comments
Take my blood pressure every day.			
Weigh myself every day.			
Take my HF medicine every day.			
Keep a low salt diet.			
Restrict my fluids every day.			
Identify the zone that I am in.			

*Please provide comments on any aspect of your HF activities where you check “disagree”

Appendix C: Pre/post-test (Spanish)

Nombre_____

Fecha_____

Pre-prueba/ Post- prueba:**I. Lea cuidadosamente y seleccione la contestación correcta.**

1. La función del corazón es:
 - a. Recibir y bombear sangre al cuerpo.
 - b. Digerir comida.
 - c. Proteger al cuerpo en contra de infecciones.
 - d. Filtrar la sangre del cuerpo.
2. Fallo cardiaco es:
 - a. Cuando el corazón no puede digerir la comida.
 - b. Cuando el corazón deja de latir.
 - c. Cuando el corazón late rápido.
 - d. Cuando el corazón no puede bombear la sangre por todo el cuerpo.
3. Fracción de eyección es:
 - a. La medida que se utiliza para determinar el nivel de azúcar en la sangre.
 - b. Medida que se utiliza para saber si tengo fiebre.
 - c. Medida que se utiliza para saber la cantidad de sangre que el corazón bombea.
 - d. Medida que se utiliza para determinar mi peso.
4. Las señales de una recaída de fallo cardiaco son:
 - a. Hinchazón de los pies y tobillos; dificultad para respirar, tos que no desaparece, el despertar en la noche con dificultad para respirar.

- b. Náuseas y vómitos.
 - c. Fiebre y escalofríos.
 - d. Aumento en el apetito.
5. Porque tengo fallo cardiaco tengo que restringir en mi dieta:
- a. Cantidad de consumo de frutas.
 - b. Cantidad de consumo de sodio y líquidos.
 - c. Cantidad de consumo de carne.
 - d. Cantidad de consumo de vegetales.

II. Favor conteste las siguientes preguntas:







1. Mencione las cosas usted tiene que monitorear en su casa todos los días.
2. Escriba los medicamentos de fallo cardiaco que usted toma.

III. Favor contestar las siguientes preguntas:

Es fácil realizar las siguientes actividades:	De acuerdo	No de acuerdo	Comentarios/sugerencias
Tomarme la presión todos los días.			
Pesarme todos los días.			
Tomarme los medicamentos todos los días.			
Seguir una dieta baja en sal.			
Seguir restricción de líquidos.			
Identificar en que zona estoy.			

Appendix D: Patient 30-day Journaling sheet (English)







[illegible]

Zones to Control Heart failure		
Green Zone 	You: <ul style="list-style-type: none"> ♥ Do not have respiratory difficulty. ♥ You do not gain more than 2 pounds in one day or 5 pounds in one week. ♥ Your feet, ankles, legs nor stomach is swollen. ♥ You do not have chest pain. ♥ You do not wake up in the middle of the night short of breath. 	What to do: <ul style="list-style-type: none"> ♥ Keep up the good work. ♥ Remember to take your medications. ♥ Keep a low sodium, fluid restricted diet. ♥ Keep monitoring your weight daily.
Yellow Zone 	You: <ul style="list-style-type: none"> ♥ Gain more than 3 pounds in one day or 5 pounds in one week. ♥ It is difficult for you to breath. ♥ Notice swelling of your feet, ankles, legs and stomach. ♥ Feel tired, and easily feel short of breath. ♥ Develop a new or unusual cough. ♥ Feel dizzy. ♥ Notice increase shortness of breath at night, and need three pillows or more to sleep at night. 	What to do: <ul style="list-style-type: none"> ♥ Call your provider.
Red Zone 	You: <ul style="list-style-type: none"> ♥ It is very difficult for you to breath that does not improve in a sitting position. ♥ You are confused and cannot think clearly. ♥ You have increased swelling in your feet, ankles, legs and stomach. ♥ You have chest pain. 	What to do: <ul style="list-style-type: none"> ♥ Call 911 ♥ Get help, go to the Emergency Room.
In what zone am I in today? <div style="text-align: right;">    </div>		

Your heart failure medications are:

Appendix E: Patient 30-day Journaling sheet (Spanish)

[illegible]

<p>Zona Verde</p> 	<p>Usted:</p> <ul style="list-style-type: none"> ♥ No tiene dificultad para respirar. ♥ Ha mantenido su peso, no ha aumentado 3 libras en un día ni 5 libras en una semana Sus pies no están hinchados. ♥ No sientes dolor de pecho. ♥ No le falta el aire en la noche. 	<p>¿Que hacer?:</p> <ul style="list-style-type: none"> ♥ Felicidades!! Siga haciendo un buen trabajo. ♥ Recuerde de seguir tomando sus medicamentos. ♥ Siga consumiendo una dieta bajo en sodio, restringiendo sus líquidos. ♥ Continúe monitoreando su peso diariamente.
<p>Zona Amarilla</p> 	<p>Usted:</p> <ul style="list-style-type: none"> ♥ Ha aumentado mas de 3 libras en un día o 5 libras en una semana. ♥ Tienes dificultad para respirar. ♥ Notas hinchazón en los tobillos, piernas y abdomen. ♥ Te sientes cansado y te fatigas con facilidad. ♥ Desarrollas una tos persistente. ♥ Te sientes mareado. ♥ Notas que te falta el aire por la noche. 	<p>¿Que hacer?:</p> <ul style="list-style-type: none"> ♥ Llame a nuestra clínica (787)641-7582 ext.31802 o ext. 31794
<p>Zona Roja</p> 	<p>Usted:</p> <ul style="list-style-type: none"> ♥ Se te hace bien difícil respirar aunque estes sentado. ♥ Estas confundido y no puedes pensar claramente. ♥ Ha aumentado la hinchazón en los tobillos, piernas y abdomen. ♥ 	<p>¿Qué hacer?</p> <ul style="list-style-type: none"> ♥ Llame el 911 ♥ Venga a Sala de Emergencias.
<p>¿En cuál zona me encuentro hoy?</p> <div style="text-align: center;">    </div>		

Sus medicamentos de fallo cardiaco son:

Appendix F: Health Literacy Assessment tool by Pfizer (English and Spanish)

Dear Healthcare Professional:

Thank you for your interest in the Newest Vital Sign (NVS), the first tool available to assess health literacy in English and Spanish.

Research shows that patients with low health literacy are less likely to comply with prescribed treatment and medical instructions from their physician. Identifying patients who are at risk for low health literacy allows physicians to apply specific clear health communication techniques that may enhance understanding. The Newest Vital Sign is a simple and fast way to identify those patients. The tool, which tests literacy skills for both numbers and words*, has been validated against a previously validated measure of health literacy (the TOFHLA), and has been shown to take approximately three minutes to administer.

In addition to the NVS tool, we are also including information to help enhance patient-provider communication. In this folder you will find the following materials:

- NVS Tool (nutrition label and scoring sheet tear-off pad, both two-sided in English/Spanish)
- NVS Implementation Guide
- *Ask Me 3* (fact sheet on free educational materials from the non-profit Partnership for Clear Health Communication)
- *Help Your Patients Succeed* (tips for improving communication with your patients)
- *Why Does An Ice Cream Label Work . . .* (fact sheet explaining the design of the NVS)

The Newest Vital Sign is Pfizer Inc's most recent contribution to the health literacy movement. For more than nine years, Pfizer has been committed to raising awareness of developing solutions for low health literacy. The overall goal of our Clear Health Communication Initiative is to positively impact the health care system by enhancing patient-provider communication to increase compliance and improve patient health outcomes.

The Newest Vital Sign and companion materials are available to medical and public health providers at no cost. To learn more about our efforts to improve health literacy, please visit www.pfizerhealthliteracy.com.

Sincerely,

Richard C. Hubbard, M.D.
Senior Director, External Medical Affairs
Pfizer Inc

*Literacy is defined as the understanding and application of words (prose), numbers (numeracy), and forms, etc. (document).



Implementation Guide for the Newest Vital Sign

Health literacy—the ability to read, understand and act upon health information — is now known to be vital to good patient care and positive health outcomes. According to the Institute of Medicine’s groundbreaking report on health literacy, nearly half of all American adults — 90 million people — have difficulty understanding and using health information. When patients lack the ability to understand and act upon medical information, it can put their health at risk.

The Newest Vital Sign is a new tool designed to quickly and simply assess a patient’s health literacy skills. It can be administered in only 3 minutes and is available in English and Spanish. The patient is given a specially designed ice cream nutrition label to review and is asked a series of questions about it. Based on the number of correct answers, health care providers can assess the patient’s health literacy level and adjust the way they communicate to ensure patient understanding.

There are many ways to integrate the Newest Vital Sign (NVS) into a private practice or clinic setting to improve communication with patients. Improved communication can help increase your patients’ ability to understand and act upon the information you provide; ultimately improving patient satisfaction and health outcomes.

How To Use the Newest Vital Sign

1. Who and when to administer the Newest Vital Sign.

- **A nurse (or other trained clinic staff)** is the preferred administrator of the Newest Vital Sign.
- Administer at the same time that other vital signs are being taken.

2. Ask the patient to participate.

A useful way to ask the patient is an explanation similar to this:

“We are asking our patients to help us learn how well patients can understand the medical information that doctors give them. Would you be willing to help us by looking at some health information and then answering a few questions about that information? Your answers will help our doctors learn how to provide medical information in ways that patients will understand. It will only take about 3 minutes.”

3. Hand the nutrition label to the patient.

The patient can and should retain the nutrition label throughout administration of the Newest Vital Sign. The patient can refer to the label as often as desired.

More...

4. Start Asking the 6 questions, one by one, giving the patient as much time as needed to refer to the nutrition label to answer the questions.

- There is no maximum time allowed to answer the questions. The average time needed to complete all 6 questions is about 3 minutes. However, if a patient is still struggling with the first or second question after 2 or 3 minutes, the likelihood is that the patient has limited literacy and you can stop the assessment.
- **Ask the questions in sequence.** Continue even if the patient gets the first few questions wrong. However, **if question 5 is answered incorrectly, do not ask question 6.**
- **You can stop asking questions if a patient gets the first four correct.** With four correct responses, the patient almost certainly has adequate literacy.
- **Do not prompt patients who are unable to answer a question.** Prompting may jeopardize the accuracy of the test. Just say, “Well, then let’s go on to the next question.”
- **Do not show the score sheet to patients.** If they ask to see it, tell them that “I can’t show it to you because it contains the answers, and showing you the answers spoils the whole point of asking you the questions.”
- **Do not tell patients if they have answered correctly or incorrectly.** If patients ask, say something like: “I can’t show you the answers till you are finished, but for now you are doing fine. Now let’s go on to the next question.”

5. Score by giving 1 point for each correct answer (maximum 6 points).

- **Score of 0-1** suggests high likelihood (50% or more) of limited literacy.
- **Score of 2-3** indicates the possibility of limited literacy.
- **Score of 4-6** almost always indicates adequate literacy.

Record the NVS score in the patient’s medical record, preferably near other vital sign measures.

Best Practices for Implementation: Summary

- A nurse (or other trained clinic staff) is the preferred administrator of the Newest Vital Sign.
- Administer the NVS at the same time that the patient’s other vital signs are being taken.
- Record the NVS score in the patient’s chart, preferably near other vital sign measures.
- Tailor communication to ensure patient understanding.



Why Does an Ice Cream Label Work as a Predictor of the Ability To Understand Medical Instructions?

A patient's ability to read and analyze any kind of nutrition label requires the same analytical and conceptual skills that are needed to understand and follow a provider's medical instructions. The skills, which are known as *health literacy*, are defined as the understanding and application of words (prose), numbers (numeracy), and forms (documents).

The use of an ice cream label is especially relevant as recent research in the *American Journal of Preventive Medicine* (November 2006) has shown that poor comprehension of food labels correlated highly with low-level literacy and numeracy skills. However, the study found that even patients with better reading skills could have difficulties interpreting the labels.

Whether reading a food label or following medical instructions, patients need to:

- remember numbers and make mathematical calculations.
- identify and be mindful of different ingredients that could be potentially harmful to them.
- make decisions about their actions based on the given information.

PROSE LITERACY:

Clinical example: The patient has scheduled some blood tests and is instructed in writing to fast the night before the tests. The skill needed to follow this instruction is **Prose Literacy**.

Ice cream label example: The patient needs this skill to read the label and determine if he can eat the ice cream if he is allergic to peanuts.

NUMERACY:

Clinical example: A patient is given a prescription for a new medication that needs to be taken at a certain dosage twice a day. The skill needed to take the medication properly is **Numeracy**.

Ice cream label example: The patient needs this same skill to calculate how many calories are in a serving of ice cream.

DOCUMENT LITERACY:

Clinical example: The patient is told to buy a glucose meter and use it 30 minutes before each meal and before going to bed. If the number is higher than 200, he should call the office. The skill needed to follow this instruction is **Document Literacy**.

Ice cream label example: The patient needs this skill to identify the amount of saturated fat in a serving of ice cream and how it will affect his daily diet if he doesn't eat it.



Score Sheet for the Newest Vital Sign Questions and Answers

READ TO SUBJECT:

This information is on the back of a container of a pint of ice cream.

1. If you eat the entire container, how many calories will you eat?

Answer: 1,000 is the only correct answer

2. If you are allowed to eat 60 grams of carbohydrates as a snack, how much ice cream could you have?

Answer: Any of the following is correct: 1 cup (or any amount up to 1 cup), half the container. Note: If patient answers "two servings," ask "How much ice cream would that be if you were to measure it into a bowl?"

3. Your doctor advises you to reduce the amount of saturated fat in your diet. You usually have 42 g of saturated fat each day, which includes one serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?

Answer: 33 is the only correct answer

4. If you usually eat 2,500 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?

Answer: 10% is the only correct answer

READ TO SUBJECT:

Pretend that you are allergic to the following substances: penicillin, peanuts, latex gloves, and bee stings.

5. Is it safe for you to eat this ice cream?

Answer: No

6. (Ask only if the patient responds "no" to question 5): Why not?

Answer: Because it has peanut oil.

ANSWER CORRECT?

yes	no

Number of correct answers:

Interpretation

Score of 0-1 suggests high likelihood (50% or more) of limited literacy.

Score of 2-3 indicates the possibility of limited literacy.

Score of 4-6 almost always indicates adequate literacy.



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Información Nutricional

Tamaño de la Porción $\frac{1}{2}$ taza
Porciones por envase 4

Cantidad por porción

Calorías 250 Cal Grasa 120

%DV

Grasa Total 13g 20%

Grasas Sat 9g 40%

Colesterol 28mg 12%

Sodio 55mg 2%

Total Carbohidratos 30g 12%

Fibras Dietéticas 2g

Azúcares 23g

Proteína 4g 8%

*Porcentaje de Valores Diarios (DV) se basan en una dieta de 2.000 calorías. Sus valores diarios pueden ser mayores o menores dependiendo de las calorías que usted necesite.

Ingredientes: Crema, Leche Descremada, Azúcar Líquida, Agua, Yemas de Huevo, Azúcar Morena, Aceite de Cacahuete (Maní), Azúcar, Mantequilla, Sal, Carragenina, Extracto de Vainilla.



Hoja de Resultados para el Nuevo Signo Vital

Preguntas y Respuestas

LEA AL PACIENTE:

Esta información aparece en el reverso de un envase de helado.

- Si usted se come todo el helado en el envase, ¿cuántas calorías habrá consumido?
Respuesta: 1,000
- Si a usted le recomendaron consumir 60 gramos de carbohidratos en la merienda, ¿cuánto helado puede comer?
Respuesta: Cualquiera de: Hasta un máximo de una taza, una taza, la mitad del envase. Nota: si el paciente responde "dos porciones," pregunte "¿Qué cantidad de helado sería si lo sirviera en un tazón?"
- Su médico le aconseja reducir la cantidad de grasas saturadas en su dieta. Usted normalmente consume 42 gramos de grasa saturada al día, que incluye una porción de helado. Si deja de comer helado, ¿cuántos gramos de grasa saturada consumiría cada día?
Respuesta: 33 gramos
- Si usted normalmente come 2500 calorías habrá consumido si se come una porción?
Respuesta: 10%

LEA AL PACIENTE:

Imagine que es alérgico/a a las siguientes sustancias: Penicilina, cacahuete (maní), guantes de latex y picaduras de abeja.

- ¿Puede comer este helado con seguridad?
Respuesta: No
- (Solamente si responde "no" a pregunta 5): ¿Por qué no?
Respuesta: Porque tiene aceite de cacahuete (maní)

¿RESPUESTA CORRECTA?

si	no

Número de respuestas correctas:

Interpretación

Resultado de 0-1 sugiere alta probabilidad (50% o más) de alfabetización limitada.

Resultado de 2-3 indica la posibilidad de alfabetización limitada. Resultado de 4-6 casi siempre indica alfabetización adecuada.



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